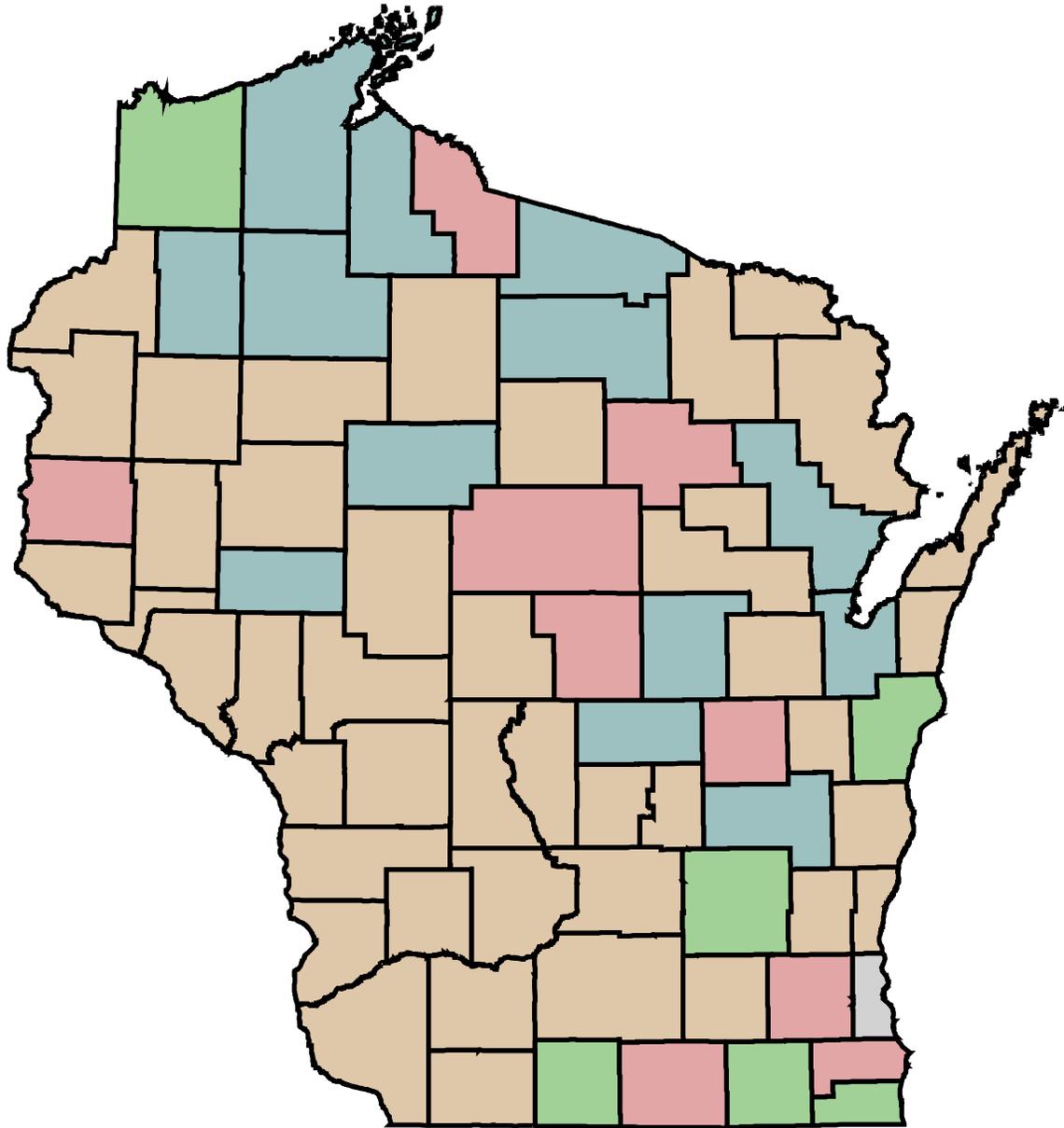


# Land Disturbance Standards



-  County is not regulated under NR 115.
-  County uses 1985 Model Ordinance language or variation to determine if a permit is needed.
-  County uses total area disturbed or slope of site to determine if a permit is needed.
-  County uses another methodology to determine if a permit is needed.
-  County requires a permit for any shoreland grading.

For more information, contact Carmen Wagner,  
WI DNR, Shoreland Zoning Specialist, 608-267-7694.

  
May 22, 2000  
Bureau of Watershed Management

# ***LAND DISTURBANCE ISSUE SUMMARY***

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## ***MANAGEMENT RATIONALE***

Land disturbances such as filling and grading are regulated in the shoreland area since they have the potential to:

- increase delivery of phosphorus rich sediment to the waterway, resulting in poor water quality and nuisance growth of algae and aquatic plants,
- accelerate erosion of banks and shorelines through the removal brush and shoreline vegetation, and
- adversely affect near shore habitat and aquatic communities by covering spawning grounds and other critical near shore areas with sediment.

## ***MINIMUM STATEWIDE STANDARDS***

Chapter NR 115, Wis. Admin. Code, Wisconsin's Shoreland Management Program, has only general standards for filling, grading, lagooning, dredging, ditching and excavating. These activities may be permitted only in accordance with the requirements of Chapter 30 and any other applicable state and federal laws, and must be done in a manner designed to minimize erosion, sedimentation and impairment of fish and wildlife habitat.

In the Department of Natural Resources' 1985 "Model Shoreland Zoning Ordinance" specific standards were given to distinguish between land disturbances which require a permit and those which do not. The model ordinance recommends that a special exception permit is required for any filling or grading of an area within 300 feet of the ordinary high water mark (OHWM) which drains toward the water and on which there is either:

- any filling or grading on slopes more than 20%,
- filling or grading of more than 1,000 square feet on slopes of 12-20%, or
- filling or grading of more than 2,000 square feet on slopes less than 12%.

Such provisions still allow substantial land disturbing activities to take place which may adversely impact water quality, although when a permit is not required, the land disturbing activity must still be done in a manner designed to minimize erosion, sedimentation and impairment of fish and wildlife habitat.

## ***RELATED RESEARCH***

Construction site erosion is a serious threat to water quality if not adequately controlled. The Wisconsin Land Conservation Board (1984) found that construction sites without adequate erosion and sediment control practices can have soil loss rates of 30 to 200 tons/acre/year, 10 to 20 times that of cropland.

The Southeastern Wisconsin Regional Planning Commission estimated that runoff from urban and suburban construction sites contributed 35% of the sediment and 28% of the phosphorus entering the inland lakes and streams in its seven-county planning area (Jackson et al. 1981). Proper erosion and sediment control practices can help to control construction site erosion. These controls are often referred to as Best Management

Practices (BMPs) and can be found in the Natural Resources Conservation Service (NRCS) or the Department of Natural Resources erosion control field manuals.

When considering whether a special exception or conditional use permit should be granted (regardless of when the permitting process kicks in), the community should have standards that are closely tied into what erosion control practices will be implemented on that site. Ultimately the degree to which sediment control is achieved on construction sites will be dependent on the knowledge and care taken by the builder to utilize the best techniques available, and the level of scrutiny communities place on projects in sensitive areas, such as steep slopes. The success of this approach will rely on the ability of local staff to educate themselves and the builders they work with on the best erosion and sediment control methods.

#### ***MANAGEMENT INITIATIVES***

Since counties are not required to use the standards found in the model ordinance, some have increased the minimum area and slope disturbed requiring a permit. For instance, Chippewa County requires a conditional use permit for:

- any filling or grading on slopes more than 35%,
- filling or grading of more than 2,000 square feet on slopes of 12 –35%, or
- filling or grading of more than 4,000 square feet on slopes less than 12%.

This can lower the permit workload for the county, but increases the potential for adverse impacts.

Another option is to simplify the permit criteria. Instead of using a combination of slope and area, a county may use a threshold area OR slope. Oconto County, for example, requires a grading permit for filling and grading within the shoreland area draining to water if:

- filling or grading occurs on slopes greater than 20%,
- more than 500 square feet is exposed with a single land disturbance, or
- more than 1,000 square feet is exposed in total.

This method is easier to administer and much easier for a property owner or contractor to determine when a permit is needed.

Some counties have opted to require a permit for any land disturbances within the shoreland area. This may increase staff workload, but it also provides an opportunity for an initial contact with a citizen prior to any earth moving to educate them about permit requirements and potential impacts of mismanaged activities. Langlade County requires a fill and grade permit for any land disturbances within 300 feet of navigable waters. A conditional use permit is needed if the requirements of the fill and grade permit cannot be met, or if the disturbance will result in greater than 10,000 square feet being altered.

The last type of language used in shoreland ordinances is similar to Chapter NR 115, Wis. Admin. Code. For example, Douglas County's Shoreland Zoning Ordinance simply states that filling and grading is permitted only in accord with state law and where protection against erosion, sedimentation and impairment of aquatic life is assured.

The goal of regulating land disturbances is to limit the potential adverse effects from increased runoff and sediment on a waterbody, as well as impacts to shoreland vegetation and habitat.

#### **CONSIDERATIONS**

- Are property owners applying for permits when they are needed? If not, is it simply a result of lack of knowledge regarding the regulation or is it the result of confusion over when permits are needed?
- Are proper erosion and stormwater control measures being used? Does your ordinance have language requiring erosion and stormwater control plans? Do your permits require implementation of plans? Are the required plan components well defined?
- Are there sites where prohibiting any land disturbances would make sense due to the fragile nature of the area? On slopes over 35%? 40%? 45%?
- How is your permitting system administered? Is a conditional use permit required for all permits? Or can the zoning administrator issue grading permits until a threshold level (10,000 s.f.) if certain requirements are met?
- If your community changes its permitting process, how will it affect the local staff's workload? Is there enough staff? Do they have the knowledge base to evaluate erosion and stormwater control plans?

#### **BIOGRAPHY**

Jackson, G. W., L. C. Johnson, and J. L. Arts. 1981. *Controlling runoff and erosion from land developing projects: some institutional tools*. University of Wisconsin – Extension. Madison, WI.

Wisconsin Land Conservation Board. 1984. *Erosion in Wisconsin*. Madison, WI.

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Abbreviations used in the following table are:

CUP = Conditional use permit  
F & G permit = Fill and grade permit  
H<sub>2</sub>O = Water  
LUP = Land use permit  
OHWM = Ordinary high water mark  
s.f. = Square feet  
SEP = Special exception permit  
ZP = Zoning permit

# Land Disturbance Standards

<i>County</i>	<i>Land Disturbance Standard</i>
Adams	Special exception permit req. if filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20%, (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Ashland	CUP req. if clear cutting on >20% slopes. CUP req. if filling or grading w/i 300' of OHWM draining to water & >20% slopes.
Barron	Grading permit req. for nonwetlands that slope to water & (1)slope>20% (2)1000 s.f. on 12-20% slopes (3)2000 s.f. on <12% slopes or (4)ice ridges.
Bayfield	Special land use permit req. for grading or filling w/i 300' of shore & (1) >1000 s.f. or (2)slopes>20%.
Brown	Land use permit req. for filling or grading >1000 s.f. within shoreland area.
Buffalo	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Burnett	Land use permit required for filling/grading w/i 300' of OHWM and (1)slopes 20%+, (2) >1000 s.f. on 12-20% slopes, or (3) >2,000 s.f on 0-12% slopes.
Calumet	LUP req. for filling/grading w/i shoreland area draining to water (1)>20% slopes (2)>1000 s.f. on 12-20% (3)>2,000 s.f on <12%. Public hearing req. if >10,000 s.f. disturbed.
Chippewa	CUP req. for any filling or grading w/i shoreland & drains to water if (1)on slopes >35%, (2)>2000 s.f. on 12-35% slopes, or (3)>4,000 s.f. on <12%.
Clark	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Columbia	Zoning permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20%, (2)>1000 s.f. on 12-20%, (3)>2000 s.f. on <12%. SEP req. for >10,000 s.f.
Crawford	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Dane	Filling & grading permit req. w/i 300' of OHWM or if in 100-yr. floodplain or wetland dist., & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Dodge	Permits for grading, filling or excavating as required by Shoreland-Wetland District.
Door	Zoning permit for disturbances w/i 300' horizontally of nav. water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12% (4)over 10,000 s.f.
Douglas	Filling & grading permitted only in accord with state law and where protection against erosion, sedimentation & impairment of aquatic life is assured.
Dunn	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>2000 s.f. on 12-20% (3)>5000 s.f. on <12%.
Eau Claire	Conditional Use Contract req. for alteration of land surface with slope over 6%.
Florence	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Fond du Lac	Special exception permit req. for filling or grading w/i 300' of OHWM & drains to water if (1)>10,000 s.f. exposed or (2)on slopes of 20% or greater.
Forest	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Grant	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Green	Permit req. as described in Shoreland-Wetland District.
Green Lake	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.

<b>County</b>	<b>Land Disturbance Standard</b>
Iowa	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Iron	Any filling, grading or excavating requires a Land Use Permit.
Jackson	CUP req. for any filling or grading w/i 300' of OHWM on slopes draining toward water & (1)>20% (2)>1000 s.f. on 12-20% or (3)2000 s.f. on <12%.
Jefferson	Permit req. if grading w/i 500' of OHWM sloping to water, BUT not Shrlnd-Wtlnd Dist., if (1)20%+ slopes (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Juneau	Spec. except. permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>5000 s.f. on 12-20% (3)>10,000 s.f. on <12%.
Kenosha	Earth movements, incl. grading, topsoil removal, and filling, are conditional uses & may require a stipulated shoreland permit.
Kewaunee	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>4000 s.f. on 12-20% (3)>5000 s.f. on <12%.
La Crosse	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Lafayette	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Langlade	Fill & grade permit req. w/i 300' of nav. water. CUP req. if >10,000 s.f. altered or cannot meet req. of F & G permit. No grading on 45%+ slopes.
Lincoln	CUP req. for any filling or grading w/i 300' of OHWM & drains toward water if (1)>6000 s.f. on >20% slopes or (2)>8000 s.f. on 12-20% slopes.
Manitowoc	Filling, grading, excavating, etc. done w/ permitted, accessory or conditional use must comply w/ ordinance to minimize any habitat impairment.
Marathon	Earth disturbances <10,000 s.f. req. a zoning permit & must meet certain standards. If 10,000 s.f. or more, it is a special exception permit.
Marinette	CUP req. for any filling or grading w/i 300' of OHWM on slopes draining toward water & (1)>20% (2)>1000 s.f. on 12-20% or (3)2000 s.f. on <12%.
Marquette	CUP req. for filling, grading or clear cutting in shoreland area draining to water & (1)>20% slopes (2)>10,000 s.f. on 12-20% slopes, (3)>20,000 s.f.
Menominee	LUP req. for filling/grading w/i 300' of OHWM on slopes draining to water & (1)>20% (2)>1000 s.f. on 12-20% (3)2000 s.f. on <12% (4)w/i OHWM setback.
Monroe	CUP req. for filling or grading of area w/i 300' of water & drains to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Oconto	Grading permit req. for grading/filling w/i shoreland juris. if drains to water & (1)on slopes >20% (2)>500 s.f. exposed singlely (3)>1000 s.f. total.
Oneida	CUP req. for filling, grading,etc. if over 10,000 s.f.
Outagamie	CUP req. for filling or grading of area w/i 300' of water & drains to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Ozaukee	SEP req. for filling or grading area w/i 300' of OHWM & drains to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Pepin	Zoning permit req. for filling/grading w/i 300' OHWM & drains to H2O if (1)<5000 s.f. on 20%+ (2)<10,000 s.f. on 12-20% or (3)<12,500 s.f. on <12%.
Pierce	CUP req. for filling or grading of area w/i 300' of water & drains to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Polk	SEP req. for filling or grading of area w/i 300' of water & drains to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.

<b>County</b>	<b>Land Disturbance Standard</b>
Portage	Any filling, grading or excavation >10,000 s.f. require a special exception permit. Under 10,000 s.f. req. a zoning permit.
Price	Permit req. for filling or grading w/i 300' of OHWM & drains to water if (1)on 20%+ slopes, (2)>1000 s.f. on 12-20% slopes, (3)>5,000 on <12% slopes.
Racine	CUP req. for any earth moving, but two types of CUPs - Shoreland Contract CUP or traditional Planning Commission CUP w/ public input.
Richland	SEP req. for filling or grading w/i 300' of OHWM draining to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Rock	Permit req. for filling, grading or excavating <1000 s.f. If >1000 s.f., it is a conditional use & req. CUP.
Rusk	CUP req. for any filling or grading w/i 300' of OHWM on slopes draining toward water & (1)>20% (2)>1000 s.f. on 12-20% or (3)2000 s.f. on <12%.
St. Croix	Grading or filling w/i 300' of shore may req. special exception permit.
Sauk	SEP req. for filling or grading w/i 300' of water & drains to water if (1)>20% slopes (2)>2000 s.f. on 12-20% slopes or (3)>4000 s.f. on <12%. SEP req. on slopes >20% btwn. 300' & 1000' of water.
Sawyer	Land Use Permit req. for filling or grading w/i 300' of OHWM that >10,000 s.f. OR purpose of grading is ultimate connection to waterway.
Shawano	CUP req. for filling & grading w/i 300' of OHWM & drains to water if (1)>20% (2)>1000 s.f. on 12-20% or (3)2000 s.f. on <12%. In WL, CUP if on 12%+.
Sheboygan	Shoreland-Floodpl. Zon. Per. req. for filling/grading w/i 300' of OHWM draining to water (1)>20% slopes (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Taylor	Special permit req. for any filling or grading w/i 300' of OHWM that drains to water & (1)on 20%+ slopes or (2)>10,000 s.f.
Trempealeau	SEP req. for filling or grading w/i 300' of OHWM draining to water if (1)>20% slopes (2)>1000 s.f. on 12-20% slopes or (3)>2000 s.f. on <12%.
Vernon	Special exception permit req. for filling/grading w/i 300' of OHWM & drains to water (1)on slopes>20% (2)>1000 s.f. on 12-20% (3)>2000 s.f. on <12%.
Vilas	No land dist. w/i 35' of OHWM. Shoreland Alter. Permit req. if w/i 1 year 750+ s.f. disturbed btwn. 75' & 300' from OHWM OR 400+s.f. btwn. 35' & 75'.
Walworth	ZP req. for any grading/filling w/i 35' of OHWM. ZP also req. btwn. 35-300' of OHWM if (1)slope >20%, (2)>1000 s.f. on 12-20%, (3)>2000 s.f. on <12%.
Washburn	Land disturbances prohibited on >40% slopes. Stormwater & erosion plan or CUP req. for grading, etc. on slopes 12-40%.
Washington	CUP req. for filling or grading w/i 300' of OHWM draining to water & (1)20%+ slopes, (2)>1000 s.f. on 12-20% slopes, or (3)>2000 s.f. on <12% slopes.
Waukesha	CUP req. for earth disturbances w/i shoreland. Some minor grading may be permitted w/o CUP.
Waupaca	Land disturb. on 15-45% slopes req. approved stormwater & erosion control plan or a CUP. Slopes 45% or greater, no land disturb. if drain to water.
Waushara	Land use permit req. if grading or filling w/i 300' of OHWM draining to water & btwn. 2000 & 10,000 s.f. CUP req. if >10,000 s.f.
Winnebago	CUP required for filling, grading, excavating, etc., unless activity can meet certain requirement for zoning permit & drainage plan approval.
Wood	SEP if filling/grading w/i 300' shore & drains to water (1)20%+ slopes (2)>1000 s.f. on 12-20% (3)>5000 s.f. on <12% (4)>2000 s.f. on <12% & 2'+ deep.

# *Land Disturbance Ordinance Language*

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## ***BAYFIELD COUNTY***

- 17.09 **FILLING-GRADING-DREDGING-LAGOONING**. Only filling, grading, dredging, lagooning, ditching, and excavating which is done in a manner designed to minimize erosion, sedimentation and impairment of fish and wildlife habitat and which is accomplished in conformity with all applicable federal, state and local laws is permissible in the shoreland.
- (1) **LAKE SUPERIOR**. A Special land use permit shall be required for excavating, grading, or filling of 200 square feet or more within 1,000' of the normal high water mark of Lake Superior (roadway maintenance accepted).
- (2) **FILLING**. A Special land use permit shall be required for filling in of 500 square feet or more of any wetland. In addition, a permit may be required from the Department of Natural Resources under Ch. 30, Wis. Stats., or from any other state agency having jurisdiction.
- (a) In passing upon a Special use permit (see S. 17.18) the Zoning Committee shall require the following information:
1. A detailed description and a map showing the vegetation of the shoreline or wetland area to be affected, the soil type or bottom type of the area affected, the surrounding drainage patterns, and the proposed alterations to be carried out.
  2. Whether the area to be filled serves as a nesting or spawning area for wildlife or as a habitat for any rare or endangered plant or animal species.
- (b) The Zoning Committee may require the following conditions in addition to those specified under S 17.18:
1. That fill not restrict a floodway or destroy the storage capacity of a floodplain.
  2. That measures be taken to avoid siltation.
- (3) **GRADING**. A Special land use permit shall be required for the grading or filling of 1,000 square feet or more within a strip paralleling the shoreland and extending inland 300' from the normal high water mark (roadway maintenance accepted).

- (a) All farm lands are excluded from the provisions of this section.
- (b) A Special land use permit shall be required for any grading in areas on slopes greater than 20%.
- (c) In passing upon a Special land use permit, the Zoning Committee may require the following information:
  - 1. A detailed description of the grading that is to be conducted and the proposed plans for handling of the spoils.
  - 2. A detailed description, including a topographic map of the existing topographic features, the drainage patterns, the existing vegetation and the soil types of the area to be affected.
  - 3. A detailed plot plan illustrating the manner and time frame for the restoration of the graded area.
- (d) The Zoning Committee may require the following conditions in addition to those specified under S. 17.18:
  - 1. The smallest amount of bare ground be exposed for the shortest time feasible.
  - 2. That temporary ground cover, such as mulch be used and permanent cover be planted.

## ***EAU CLAIRE COUNTY***

### 18.19.050 Filling, dredging, grading, lagooning, ditching and excavating.

A. Filling, grading, lagooning, dredging, ditching and excavating may be permitted only in accordance with the provisions of s. NR 115.05 (2) (c), the requirements of Chapter 30, Stats., and other state and federal laws where applicable and only if done in a manner designed to minimize erosion, sedimentation, and impairment of fish and wildlife habitat.

B. The following activities require approval by the Department by issuance of a conditional use contract by the applicant and the Department agree to methods to prevent erosion, sedimentation, and pollution of the water body. If the applicant is unsatisfied with the terms of the contract or the Department deems that a public hearing should be held, the application shall be handles as a conditional use permit.

- 1. Creation or alteration of a waterbody.
- 2. Alteration of the land surface having a slope exceeding 6%.
- 3. Alteration of the bank of a waterbody except for those issued where the Department of Natural Resources has issued a Chapter 30 or 31 permit.

C. A conditional use permit shall be approved based upon:

1. A construction plan shall be submitted to the Department based upon the “Wisconsin Construction Site Best Management Handbook”. The Land Conservation Division of the Department shall review and make written comments on the proposed construction plan.

2. Permits issued by state, federal and local agencies;

3. Findings that the activity will not result in:

a. Impairment of natural wetland functions;

b. Erosion or sedimentation;

c. Impairment of aquatic life;

d. Unnecessary loss of native appearance or natural beauty of shoreland;

e. Restricting flood flows;

f. Reducing the storage capacity of the floodplain.

D. The Department or Committee may attach conditions to their approval to assure compliance, including, but not limited to:

1. Time limits for exposure of bare ground;

2. Use of temporary ground-cover;

3. Use of sediment traps such as diversion terraces and silting basins;

4. Use of riprap or other stabilizing techniques;

5. Erosion control measures.

## ***LANGLADE COUNTY***

### **17.18 EXCAVATING, FILLING, GRADING, RECONTOURING, PONDS.**

(1) Filling, grading or excavating within 300’ of a navigable water body shall be governed by Section 17.30 (8).

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### **17.30 (8) LAND DISTURBING ACTIVITIES.**

(a) Filling, grading or excavating within 300’ of a navigable water body shall be governed by the following existing and proposed features:

1) Applicants shall submit a fill and grade permit to the zoning administrator showing the following:

a) Proposed and existing principal and accessory structures.

b) Fencing.

c) Paving.

d) Landscaping.

e) Screening.

f) Private sewage system location.

g) Driveways.

h) Plans for management of surface waters and stormwater.

- i) North arrow.
- j) Measurements of setbacks for buildings and lot lines.
- k) Slopes and areas to be excavated, filled, or graded.
- l) Signature of person responsible for the work.

2) The site plan must demonstrate that the site has sufficient and usable space for all these identified features, will not cause unreasonable erosion or be contrary to Section 17.02 or 17.30 (3). A permit shall be denied if the activity threatens to cause unreasonable erosion, sedimentation or disruption of fish or wildlife habitat and any permits granted shall be conditioned with the standards outlined in paragraph (b) below which may be modified at the discretion of the zoning administrator.

(b) Standards

1. Filling, grading, and excavating activities shall be performed using appropriate best management practices specified in the DNR construction site erosion control manual.
2. The area of soil exposed and duration of exposure shall be minimized.
3. Fill shall not be deposited in any floodplain or wetland without proper written authorization.
4. Erosion control practices shall be instituted on all projects within 100' of the ordinary high watermark of a lake or stream on slopes greater than 5% and on all projects within 25' of a property line. These practices shall remain until vegetation has stabilized the area and sufficiently to deter erosion.
5. No heavy equipment may be used closer than 75' to the ordinary high watermark of a lake or stream or the reduced shoreland setback area and no spoils shall be placed in this area.
6. Areas to be altered contiguous to the ordinary high watermark shall not exceed 200 square feet.
7. Total area to be approved shall not exceed 10,000 square feet not including the identified septic system area.
8. Post construction runoff shall be considered and appropriately controlled to prevent erosion and sediment transport.
9. Upland slopes and drainageways shall be stabilized according to accepted engineering practices.
10. Permits are valid for 60 days unless an extension is granted.

(c) A conditional use permit shall be required prior to any filling, grading, excavating or similar alteration of the existing surface contours if the area to be altered exceeds 10,00 square feet or if the activity does not meet the requirements as stipulated in paragraph 17.30 (8) (a) (b).

(d) Prohibited Land Disturbing Activities. On slopes in excess of 45% land disturbing activities are prohibited on shorelands that drain to surface waters.

## ***MARATHON COUNTY***

### **17.34 (9) EARTH DISTURBANCES.**

- (a) Earth disturbances which do not equal or exceed 10,000 sq. ft. such as the removal of natural deposits, grading, filling, road construction and the construction of ponds with less than one acre of surface area are all permitted providing:
1. All final slopes as a result of excavation or filling shall not exceed 1' vertical to 3' horizontal. See also §17.43 (2) (1).
  2. All exposed ground surfaces, except actual roadways, shall have topsoil applied and be reseeded or planted to minimize erosion.
  3. A zoning permit is obtained from the Zoning Administrator.
  4. Within the required shoreline setback area, all earth disturbances, except for waterline rip-rap, shall be reclaimed by revegetation. Earth disturbances shall not be allowed where the resulting slopes would be too steep to be stabilized with vegetation. This provision may be waived where there is on-going bank erosion and structural methods are the only feasible means of stabilization.
- (b) Earth disturbances which equal or exceed 10,000 square feet such as the removal of natural deposits, grading, filling, road cutting and ditching, channel clearing, the construction, altering or enlargement of waterways and soil and water conservation structures are special uses requiring a public hearing and issuance of a special exception permit by the Board of Adjustment, in accordance with Section 17.13 of this chapter, in addition to any permit required from the DNR having jurisdiction under Ch. 30, Wis. Stats., and/or the U.S. Army Corps of Engineers. Such a special exception shall be contingent upon the assurance of adequate protection against erosion, sedimentation and impairment of fish and wildlife habitat. In addition, filling, grading, lagooning, tiling, dredging, ditching or excavating in a shoreland-wetland district may be permitted only if the requirements of Section 17.35

(3) (b) and (c) are met. Nonmetallic mining shall comply with the terms of the Marathon County Nonmetallic Mining Reclamation Code, Chapter 21 of the General Code of Ordinances and shall not require a public hearing except as provided in §21.10 (8) of the General Code of Ordinances for Marathon County.

## ***MENOMINEE COUNTY***

### 22.070 Excavating, Filling and Grading.

- A. Excavating, filling and grading which does not require a permit under section 22.070 (B) may be permitted in the shoreland overlay district, provided that:
  - 1. It is done in a manner to minimize erosion, sedimentation and impairment of fish and wildlife habitat.
  - 2. Such excavating, filling and grading meets the requirements of sections 22.070 (c) of this ordinance.
  - 3. Any fill placed in the district is protected against erosion by use of riprap, vegetative cover or other accepted methods.
- B. Permit Required: A Land Use (Zoning) permit is required for any excavating, filling or grading in the shoreland overlay district when:
  - 1. It is within the building setback line from the water or,
  - 2. The slope is greater than twenty percent (20%) or,
  - 3. The area is more than one thousand (1,000) square feet and the slope is between twelve percent (12%) and twenty percent (20%) or,
  - 4. The area is more than two thousand (2,000) square feet and the slope is less than twelve percent (12%),
  - 5. It may be required by a federal, state or other local agency.
  - 6. The construction is of an artificial waterway, canal, ditch, lagoon, pond, lake, or similar waterway which is within the shoreland overlay district or where the purpose is the ultimate connection of such construction to the shoreland overlay district.
- C. Conditions of Permits. In granting a permit under section 22.070 (B) the following conditions shall be attached to all permits:
  - 1. The smallest amount of bare ground shall be exposed for as short a time as feasible,
  - 2. Temporary ground cover (such as mulching or jute netting) shall be used and permanent vegetative cover shall be established.
  - 3. Diversion berms or bales, silting basins, terraces, filter fabric fencing, and other approved methods shall be used to prevent erosion,
  - 4. Lagoons shall be constructed to avoid fish trap conditions,
  - 5. Fill shall be stabilized according to accepted engineering standards,

6. Filling shall comply with any local floodplain zoning ordinance, and shall not restrict a floodway or distort the flood capacity of a floodplain.

## ***OCONTO COUNTY***

### **14.507 Land Surface Alterations:**

1. Filling, grading or excavating – A grading permit shall be required prior to any filling, excavating, grading or similar alteration of the existing surface contours of any shoreland area:
  - a. For any filling or grading of any area which is in the shoreland jurisdiction which has surface drainage towards the water and on which there is either:
    - (1) Filling or grading where a single area of more than 500 square feet is exposed or where the cumulative exposed area exceeds 1000 square feet.
    - (2) Any filling or grading on slopes of 20% or more.

## ***ONEIDA COUNTY***

### **9.53 Filling, grading, lagooning, dredging, ditching, and excavating shorelines of over ten thousand (10,000) square feet.**

#### **CONDITIONAL USE PERMIT REQUIRED, MEETING THE FOLLOWING CONDITIONS:**

- A. Only filling, grading, lagooning, dredging, ditching or excavating that is done in a manner designed to minimize erosion, sedimentation, and impairment of fish and wildlife habitat may be permitted in the shoreland area.
- B. Filling, grading, lagooning, dredging, ditching, or excavating in a Shoreland-Wetland District without a permit if allowed under Section 9.40 K 4. of this ordinance.
- C. A state or federal permit may be required, in addition to a permit under this ordinance, if state or federal laws are applicable to the filling, grading, lagooning, dredging, ditching or excavating that is proposed.
- D. Permit Conditions. In granting a CUP under a section 9.35 (B), the Planning & Zoning Committee, shall attach the following conditions where appropriate, in addition to those provisions specified in Section 9.35 (C):

1. The smallest amount of bare ground shall be exposed for as short a time as feasible;
2. Temporary ground cover (such as mulch) shall be used and permanent cover (such as sod) shall be planted;
3. Diversion, silting basin, terraces and other methods shall be used to trap sediment;
4. Lagooning shall be conducted in such a manner as to avoid creation of fish trap conditions.
5. Fill shall be stabilized according to accepted engineering standards;
6. Fill shall not restrict a floodway or destroy the storage capacity of a floodplain;
7. Sides of a channel or artificial water course shall be stabilized to prevent slumping;
8. Sides of channels or artificial watercourses shall be constructed with slopes (sides) of two units horizontal distance to one unit vertical or flatter, unless bulkheads or rip-rapping are provided.

## ***VILAS COUNTY***

### **ARTICLE IX: LAND DISTURBANCE ACTIVITIES**

#### **9.1 General Standards**

- A. Filling, grading, excavating, creation of impervious areas, and other land disturbance activities shall be done in a manner to minimize erosion, sedimentation, and runoff.
- B. Activities which do not require a shoreland alteration permit may be allowed in the shoreland area provided that the following requirements are met.
  1. Such alterations are done in a manner designed to minimize erosion, sedimentation and impairment of fish and wildlife habitat. Any fill placed in the shoreland area shall be protected against erosion by the use of riprap, vegetative cover or bulkhead. Any earth exposed as a result of filling or other alterations shall be covered immediately with organic material and/or topsoil and seeded to protect against erosion. Temporary groundcover, such as mulched straw, shall be used to temporarily stabilize any exposed area during construction.

2. Filling, grading, lagooning, dredging, ditching or excavating in the Shoreland-Wetland District meets the requirements of Section 10.3 of this Ordinance.
  3. All applicable federal, state or local permits are obtained.
  4. All Land Disturbance Activities shall comply with appropriate best management practices as specified in the Wisconsin Construction Site Best Management Practice Handbook published by the Wisconsin Department of Natural Resources.
- C. No land disturbances is allowed within 35 feet of the OHWM except as specifically authorized by Wisconsin Statutes.

## **9.2 Shoreland Alteration Permits**

### **A. Activities that Require a Shoreland Alteration Permit.**

A Shoreland Alteration Permit as described in Section 9.7 is required for the following activities:

1. Land Disturbances Activities as specified in Section 9.3.
2. Construction, dredging or commencing work on any artificial waterway, canal, ditch, lagoon, pond, lake or similar waterway where the purpose is ultimate connection with a navigable body of water.
3. Construction of a boathouse or other structures within the OHWM setback.
4. Any activity in a shoreland wetland area listed in ¶10.3.C.
5. Maintenance of existing beaches as specified in Section 9.4.
6. Construction of walkout lower levels as specified in Section 9.5.
7. Paths and Access roads as specified in Section 7.3.
8. Any activity which requires an erosion control plan, a stormwater management plan, or a cutting plan.

### **B. Activities which require an Erosion Control Plan**

An erosion control plan is required in conjunction with a Shoreland Alteration Permit for the following conditions:

1. Land Disturbance Activities in ¶9.3.B.
2. Construction involving a boat landing or roadway access to a waterbody as specified under Section 7.3.
3. Construction on Slopes – Construction on waterfront lots involving slopes where the proposed construction is located within 300 feet of the OHWM of a waterbody, and where the construction involves disturbance of an area with a vertical height difference greater than six feet over the length or width of the structure.

### **C. Activities which require a Stormwater Management Plan**

A stormwater management plan is required for impervious surfaces set forth in ¶9.6.A.

**D. Activities which require a Cutting Plan**

A cutting plan is required in conjunction with a Shoreland Alteration Permit for exceedance of tree cutting and shore cover removal standards within 300 feet of the OHWM as set forth in Article VIII.

**E. Exceptions.**

1. Soil conservation practices such as terraces, runoff diversions and grassed waterways which are used for sediment control shall not require a Shoreland Alteration Permit when designed and constructed to Natural Resource Conservation Service (NRCS) technical standards.
2. Land disturbing activities related to forestry and agriculture shall not require a Shoreland Alteration Permit if:
  - a. Such activities comply with the best management practices guidelines published by the Wisconsin Department of Natural Resources and State of Wisconsin Department of Agriculture; and
  - b. Such activities comply with the applicable provision of Section 9.1 of this ordinance.
3. Land disturbing activities by governmental bodies related to maintenance, reconstruction, or repair of road beds or rights-of way and public landings.

**9.3 General Land Disturbance Activities**

**A. Activities Requiring a Shoreland Alteration Permit**

A shoreland alteration permit is required for any land disturbance activity occurring within a twelve month period which exceeds 750 square feet between 75 and 300 feet of the OHWM or 400 square feet between 35 and 75 feet of the OHWM, except where the activity requires a zoning or sanitary permit.

**B. Activities Requiring an Erosion Control Plan**

An erosion control plan is required where total land disturbance activities exceed 10,000 square feet in a single family residential waterfront lot, or exceed 20,000 square feet on a non-single family residential waterfront lot.

*Note: a permit under Wis. Stats. Chapter 30 is also required for grading more than 10,000 square feet on the bank of a navigable water.*

**9.4 Beaches.**

**A. Prohibition on New Artificial Beaches.**

No placement of sand or other materials to create a new beach, other than beaches formed entirely through natural processes, shall be permitted on the shorelines in Vilas County.

**B. Existing Beaches.**

Existing beaches may be maintained. A shoreland alteration permit must be submitted and approved by the Zoning Administrator prior to placing additional sand fill onto the existing beach.

*Note: Placement of sand or other material below the OHWM is regulated by the Department of Natural Resources.*

# *Land Disturbance Resources*

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## *EDUCATIONAL MATERIALS*

**Erosion Control for Home Builders.** (4 pp., 1999). This handout describes how soil erosion impacts water quality and illustrates techniques for controlling erosion. It is available from county UW-Extension offices or Extension Publications, 45 N. Charter Street, Madison, WI, 53715 or by calling (608) 262-3346 (toll-free 877-947-7827). Ask for publication number GWQ001. The pamphlet is also available on-line at: [<http://clean-water.uwex.edu/pubs/sheets/index.html>].

**Getting to Know Your Stormwater Management Practices.** (1 pp., no date). Land and Water Stewardship article provides examples of stormwater management options. Available on-line from UW-Extension at: [<http://clean-water.uwex.edu/pubs/stewards/R012.pdf>].

**Polluted Urban Runoff: A Source of Concern.** (4 pp., 1997). Pamphlet describes the sources of urban pollutants found stormwater which ends up into our lakes and streams and offers suggestions on to prevent stormwater pollution. It is available from county UW-Extension offices or Extension Publications, 45 N. Charter Street, Madison, WI, 53715 or by calling (608) 262-3346 (toll-free 877-947-7827). Ask for publication number GWQ020. The pamphlet is also available on-line at: [<http://clean-water.uwex.edu/pubs/sheets/index.html>].

**Reviewing Site Plans for Stormwater Management.** (4 pp., no date). Fact sheet provides tips for what officials should look for when reviewing a stormwater management plan. Available from NEMO Project, University of Connecticut CES, 1066 Saybrook Road, Haddam, CT, 06438-0070 or by phoning (860) 345-4511. Ask for NEMO Project Fact Sheet #7.

**Soil Erosion in Also a Problem in the City.** (1 pp., no date). Land and Water Stewardship article shows how much construction sites can contribute to soil erosion and provides methods to limit erosion from sites. Available on-line from UW-Extension at: [<http://clean-water.uwex.edu/pubs/stewards/R005.pdf>].

**There Used to be Trout Here . . . Why is Sediment Harmful to Fish Habitat in Streams?** (1 pp., no date). Land and Water Stewardship article explains how sediment impacts fish habitat in streams. Available on-line from UW-Extension at: [<http://clean-water.uwex.edu/pubs/stewards/S002.pdf>].

## *TECHNICAL REFERENCES*

**Land Form Alteration Policy Guidance.** (On-line document, March 1994). This report provides an easily used guide for planning staff and others in how to deal with grading effects from subdivision decisions to lot layout and building design. Attachments to this report provide details on the possible impacts from grading, a review of policy and regulatory approaches to minimize land form alteration and some of the technical options

available as alternatives to conventional site grading. Available on-line at [<http://www.coastal.ca.gov/web/landform/title-tc.html>].

**Muddy Water in – Muddy Water Out? A Critique of Erosion and Sediment Control Plans.** (11 pp., 1999). This article looks at communities which have enacted erosion and sediment control (ESC) ordinances and evaluates the effectiveness of the resulting ESC plans. The article then suggests improvements for the production and implementation of ESC plans. Available from the Center for Watershed Protection, 8391 Main Street, Ellicott City, MD, 21043-4605 or by calling (410) 461-8323. The document is also available on-line at: [<http://www.cwp.org/>].

**Protecting Natural Wetlands: A Guide to Stormwater Best Management Practices.** (181 pp., October 1996). This manual addresses specific water quality concerns related to wetlands and is intended for use by anyone needing to address potential impacts to wetlands from stormwater runoff. The manual presents a wide variety of planning approaches as well as specific BMPs that can be employed in a variety of situations. Available from the United States Environmental Protection Agency on-line at [<http://www.epa.gov/owow/wetlands/pdf/protecti.pdf>].

**Protecting Water Quality: A Field Guide to Erosion, Sediment, and Stormwater Best Management Practices for Development Sites in Missouri and Kansas.** (302 pp., November 1995). The purpose of this manual is to provide developers, contractors, planners and local government officials with information and descriptions of erosion, sediment and stormwater control practices. Use of these practices will reduce the amount of sediment and other pollutants leaving construction sites and entering our water resources. Their use can also reduce stormwater runoff and its potential to carry pollutants, and cause flooding and stream channel instability. This document is available from Missouri Department of Natural Resources, Division of Environmental Quality, Technical Assistance Program, PO Box 176, Jefferson City, MO, 65102 or by phoning (800) 361-4827. Ask for publication number PUB488. It is also available on-line at: [<http://www.dnr.state.mo.us/deq/wpcp/wpcp-guide.htm>].

**Steep Slope Bylaws.** (On-line document, August 1999). This module provides examples of steep slope bylaws from ordinances which define a steep slope and restrict certain land uses in the defined area. Steep slope bylaws are used mainly to control erosion, mitigate visual impact of building in scenic areas, and preserve access. Available from Massachusetts Chapter of the American Planning Association and the Department of Landscape Architecture and Regional Planning at the University of Massachusetts on-line at [<http://www.massapa.org/aicp/SLOPES/SLOPE.HTM>]

**Wisconsin's Forestry Best Management Practices for Water Quality: Field Manual.** (76 pp., March 1995). This manual is designed to help loggers, landowners, and land managers be good stewards by protecting water quality during forest management activities. This manual provides recommended guidelines, however, it does not cover all situations. The BMPs may be modified for specific site conditions with guidance from a forester or other natural resource professional if modifications provide equal or greater

water quality protection. Available from the Wisconsin Department of Natural Resources, Bureau of Forestry, PO Box 7921, Madison, WI, 53707-7921 or by phoning (608) 267-7494. Ask for publication no. FR093. The document is also available on-line at: [<http://www.dnr.state.wi.us/org/land/forestry/usesof/bmp/bmpfieldmanual.htm>].

**The Wisconsin Stormwater Manual.** (172 pp., 1994) Provides information on ways to reduce pollution from urban stormwater runoff and technical design guidelines for best management practices. Available for \$15 + s/h from Extension Publications, 630 W. Mifflin Street, Madison, WI, (608) 262-3346 and ask for publication number G3691-P.